PORTABLE LINE BORING MACHINES · START SERIES · DUAL SYSTEM

START160X

PORTABLE LINE BORING MACHINE
DUAL SYSTEM · START X



The entry-level that bores and welds: one single set-up.

START160X DUAL SYSTEM is the automatic evolution of the START series. It keeps the simplicity and short set-up times of the START160, but with the START X electromechanical feed it works in automatic and manual mode and performs internal and external bore welding without dismantling the machine. With the optional kits the machining diameters go up to Ø600 mm.

- **Patented two-module DUAL SYSTEM**
- **START X feed, automatic and manual**
- **Internal and external bore welding**
- **Bore, weld and re-bore in one single set-up**
- **Magnetic quick centering kit**
- **Synchronized rotation and feed**

Ø 22 – 160 mm	54 – 423 RPM	1800 W	17 kg
BORING RANGE	BAR SPEED	ROTATION MOTOR	ROTATION MODULE

TECHNICAL SPECIFICATIONS

START160X compared with START160

SPECIFICATION	START160X	START160
OPERATIONS		
Boring Bars	20 mm - 40 mm (0.79″ - 1.57″)	
Internal Line Boring	22 mm - 160 mm (0.87″ - 6.30″)	
Internal Automatic Bore Welding	32 mm - 160 mm (1.26″ - 6.30″)	With START X feed module
External Automatic Bore Welding	22 mm - 160 mm (0.87″ - 6.30″)	With START X feed module
Drilling and tapping	Extra Kit	
Flange Facing and Seeger Circlips	Optional with FK (Facing Kit)	
External Turning	Optional with KTE (Turning Kit)	
FEED MODULE		
Feed type	START X electromechanical	START mechanical
Screw drive	Automatic and manual	
Stroke	200 mm (longer on request)	
Electrical supply	CAV control panel	None
Feed module weight	9 kg	6 kg
DUAL SYSTEM ROTATION MODULE		
Electric motor	1800 W · 220-230 V (110 V available)	
Speed I	54-126 RPM	
Speed II	180-423 RPM	
Rotation module weight	≈ 17 kg	

APPLICATIONS EARTHMOVING · RENTAL AND FLEETS · AGRICULTURE AND FORESTRY · CRANES AND LIFTING · FABRICATION · pin bores of booms, buckets and articulations · hinges · bushings

START RANGE

Boring Ø · 22–160 mm · up to Ø600 mm with the kits

START160X •
Ø 22–160 mm
START X · BORES AND WELDS

START160
Ø 22–160 mm
START · BORING

Tell us the bore diameter and length: we reply with configuration, availability and a quotation.

Data refer to the standard configuration and may change without notice. Weights are indicative.

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START160X

STANDARD PACK
DUAL SYSTEM · START X

STANDARD PACK

43 items

×1  **RT** DUAL SYSTEM Electric Rotation Module	×1  **AV-SX** START X Electromechanical Feed Module	×1  **CAV** Control Panel for Feed Module	×1  **CAV1** Connection cable for Control Panel	×1  **C37C** Short power supply cable	×1  **C37L** Long power supply cable
×1  **C37RA** Connection Cable between Rotation and Feed Modules	×1  **B20M** Boring bar ø20 mm (0.79″) L=1000 mm (39.37″)	×1  **IB20** Boring bar reduction bushing ø40 mm - ø20 mm	×3  **KBC20** Reduction bushings for Centering Kit	×1  **BRS** Reduction bushings for Universal Supports	×1  **P8L21-06** Toolholder ø8 mm (0.31″) L=21 mm (0.83″)
×1  **P8L35-06** Toolholder ø8 mm (0.31″) L=35 mm (1.38″)	×1  **B27** Boring bar ø40 mm (1.57″) L=1000 mm (39.37″)	×1  **A32** Bearing Carrier for Feed Module	×2  **S34** Universal Support	×1  **C10** Special Wrench for Universal Support	×6  **S34S-60** Bracket L=60 mm (2.36″) with 50 mm spacer
×6  **SS100** Bracket for Universal Support L=100 mm (3.94″)	×2  **SM30-160** Magnetic Fast-Centering Kit	×1  **P16L40-06** Toolholder ø16 mm (0.63″) L=40 mm (1.57″)	×1  **P16L60-06** Toolholder ø16 mm (0.63″) L=60 mm (2.36″)	×1 **P16L100-06** Toolholder ø16 mm (0.63″) L=100 mm (3.94″)	×10  **P06** Carbide Inserts for Toolholder
×10  **P15A** Torx Screw for Toolholder	×1  **PC14** Torx Wrench for Toolholder	×1  **PC15** Toolholder Extension ø90 mm (3.54″)	×1  **PUC115** Toolholder Extension L=115 mm (4.53″)	×1  **T17X** Telescopic Welding Torch Shaft L=32-700 mm, EUR cable	×1  **R17AS** Front Articulated Joint for Torch Shaft
×1  **R17** Torch Head for Internal Welding	×2  **R17P40** Torch Head Extension L=40 mm (1.57″)	×1  **R17PS** Torch Head for External Welding L=320 mm (12.60″)	×1  **R17GD** Large-Diameter Welding Torch L=190 mm (7.48″)	×3  **G08C** Short Welding Wire Tip ø0.8 mm (0.031″)	×3  **G08L** Long Welding Wire Tip ø0.8 mm (0.031″)
×3  **G10C** Short Welding Wire Tip ø1.0 mm (0.039″)	×3  **G10L** Long Welding Wire Tip ø1.0 mm (0.039″)	×2  **G22C** Short Gas Nozzle	×2  **G22L** Long Gas Nozzle	×1 **BTS-ST40** Welding Torch Lock	×1 **C11** Complete Kit of Service Wrenches
×1 **CI1** Red Metal Box (Packing)					

POWER SUPPLY AND WEIGHTS

Rotation	1800 W · 220-230 V · single-phase
110 V version	Available
START X feed	From the CAV control panel
Rotation module	≈ 17 kg
START X feed module	9 kg
Metal box (packing)	108 × 67 × 42 cm

BORE WELDING

welding unit not included

Torch	Telescopic shaft L=32-700 mm · EUR connection
Wire	ø0.8 mm and ø1.0 mm (tips included)
Internal welding	Ø32 – 160 mm
External welding	Ø22 – 160 mm

WELDING UNIT

A MIG/MAG welding unit with EUR torch connection is required. We supply it separately: MPMIG multiprocess or URA2000 with built-in wire feeder.

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EXTRA KIT
DUAL SYSTEM · START X

COMPATIBLE EXTRA KITS

for START160X

INCREMENT KITS



KB30
Reduction kit KB30
Boring kit for machining starting from Ø32mm.



KB50
INCREASE kit KB50
Boring kit for machining starting from Ø52mm (with Ø50mm tool bar)

SPECIAL KITS



SDM
SMART DRILLING MACHINE
The SMART DRILLING kit transforms the DUAL SYSTEM portable boring machines into a powerful portable vertical drill with electromagnetic base



TK
Threading kit (variable pitch)
Kit for internal threading with variable and customizable pitches (on request)



KSR
Tight-Space Kit
Kit for machining and welding in reduced spaces

CENTERING AND MEASURING KITS



KC
QUICK CENTERING KIT FOR BUCKETS
The KC centering kit was designed to perform the centering of buckets in just a few seconds, making everything fast and simple



CC4290 · CC90150 · CC150200
Centering cone kits
Ø42–90 · Ø90–150 · Ø150–200 mm



MCS
Microspand for internal measurements
Tool for measuring internal holes without having to remove the tool bar.

ACCESSORIES



MPMIG
MPMIG MULTI-PROCESS WELDING MACHINE
Single-phase multi-process inverter power source: MIG/MAG, synergic MIG, TIG DC Lift and stick, with power factor correction and a 90–275 V input range.



URA2000
URA2000 WELDING POWER SOURCE
MIG/MAG, TIG DC Lift and MMA inverter power source with built-in two-roll wire feeder, colour display, 19 synergic programs and a weight of just 12.8 kg.

Every kit can also be added after purchase: tell us the job and we will point you to the right kit.

Compatibility refers to the standard pack. Photos are indicative.